

CLAIMS:

1. A process for producing a weather resistant coating film which can keep a gloss retention of 80% or more for 1,000 hours or more in an accelerated weathering test by a carbon sunshine weather-o-meter by preparing a weather resistant coating material comprising a binder and a curing agent as main constituents and coating an article to be coated with the coating material, followed by drying, which process comprises

chemically bonding an ultraviolet absorptive compound having the maximum value of its light absorption spectrum in a wavelength region shorter than 380 nm and having a molecular extinction coefficient at the absorption maximum wavelength of 5,000 to 50,000 to either or both of the binder and the curing agent constituting the coating material,

preparing a coating material with the above-mentioned bonding and the constitution of the coating material being designed such that when the coating material is coated on an article and dried, the concentration C (mol/L) of the residual group of the ultraviolet absorptive compound in the dry coating film may satisfy the expression

$$\epsilon dC \geq 129 \cdot \log \tau - 367$$

wherein ϵ is the molecular extinction coefficient of

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the residual group of the above-mentioned compound in the dry film, d is the thickness (cm) of the dry film when in use, and τ is the time (hour) of exposure in the accelerated weathering test that shows a gloss retention of 80% or more which is determined according to the requirements of intended uses, and

coating the coating material on the article, followed by drying, so that the thickness of the dry coated film may become the above-mentioned d.

2. The process according to claim 1 wherein the binder to which the said compound has been bonded is a resin obtained by copolymerizing an ultraviolet absorptive compound having a polymerizable vinyl group with another monomer having a polymerizable vinyl group.

3. The process according to claim 1 wherein the curing agent to which the said compound has been bonded is a curing agent which comprises as an essential constituent an isocyanate compound containing residual isocyanate groups obtained by reacting an ultraviolet absorptive compound having an active hydrogen with a part of the isocyanate groups of an isocyanate prepolymer and/or monomer each having at least two free isocyanate groups and further comprises, according to necessity, an isocyanate prepolymer.

4. The process according to claim 1 wherein the ultraviolet absorptive compound is at least one compound selected from the group consisting of

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benzotriazole type compounds and benzophenone type compounds.

5. A weather resistant coating material which comprises a binder and a curing agent as main constituents and, when coated on an article to be coated and dried, can give a weather resistant coating film which can keep a gloss retention of 80% or more for 1000 hours or more in an accelerated weathering test by a carbon sunshine weather-o-meter, which is obtained by chemically bonding an ultraviolet absorptive compound having the maximum value of its light absorption spectrum in a wavelength region shorter than 380 nm and having a molecular extinction coefficient at the absorption maximum wavelength of 5,000 to 50,000 to either or both of the binder and the curing agent constituting the coating material with the above-mentioned bonding and constitution being designed such that when the coating material is coated on an article and dried, the concentration C (mol/L) of the residual group of the ultraviolet absorptive compound in the dry coating film may satisfy the expression

$$\epsilon dC \geq 129 \cdot \log \tau - 367$$

wherein ϵ is the molecular extinction coefficient of the residual group of the above-mentioned compound in the dry film, d is the thickness (cm) of the dry film when in use, and τ is the time (hour) of exposure in

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the accelerated weathering test that shows a gloss retention of 80% or more which is determined according to the requirements of intended uses.

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